

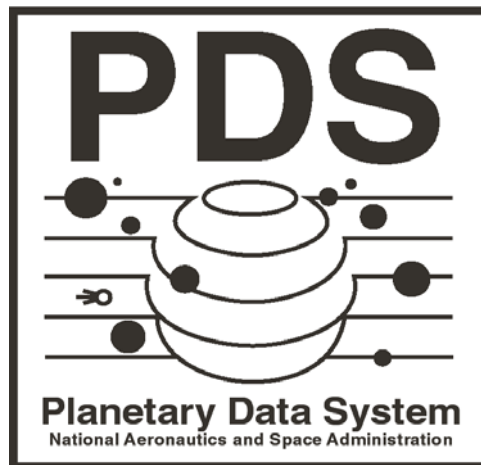
# **Planetary Data System**

## **Validation Tool (VTool)**

### **Test Report**

Alpha Test Phase II

September 13, 2006



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## CHANGE LOG

Revision	Date	Description	Author
Start Draft	2006-08-01	First Draft	R. Joyner
Draft Release 1	2006-09-13	Tool Release 0.3.0	R. Joyner / M. Cayanan

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## **1. INTRODUCTION**

This document is the Test Report for the version 0.3.0 of the PDS Validation Tool (VTool) - Alpha Test Phase II.

### **1.1. Document Purpose**

This report documents the findings of the EN Operations Team in testing the VTool application in September 2006.

### **1.2. Document Scope**

The scope of this document is limited to reporting on the test execution, test results, and where applicable, relevant information on problems detected during testing of the VTool application, using the set of preliminary test cases.

### **1.3. Governing Documents**

- [1] Validation Tool (VTool) Test Plan (JPL-D xxxx), September 12, 2006, Version 0.20060912.
- [2] Validation Tool (VTool) Test Procedure (JPL-D xxxx), September 12, 2006, Version 0.20060912.
- [3] Release Description Document (RDD) Validation Tool Release 0.3.0, September 12, 2006.
- [4] Validation Tool Requirements July 25, 2006, Version 1.3.

## 2. OVERALL SUMMARY OF THE TEST CASE REPORTS

VTool was tested using a preliminary set of test cases. Currently, there are 60+ test cases, each designed to test a specific function of VTool. The test cases were created to validate the functionality defined by the Level 5 requirements specified in the VTool Requirements Document [4]

The VTool RDD [3] contains a complete listing of functionality / capabilities not yet supported by the alpha version of VTool (see Support column in the following table).

In reviewing the testing results, a number of issues are apparent:

- (1) A thorough review / comparison of the VTool reports against the LVTool reports is necessary to identify / rectify differences in validation / reporting and to establish a baseline as to the number and severity of the reportable errors.
- (2) Test cases require review / modifications as there are differences in validation between LVTool and VTool.
- (3) Test cases require authoritative scrutiny to authenticate “compliance”

The following table lists the test cases that were used as the basis for alpha testing VTool. The values for the Support column are defined as follows (see [3] for more detailed information):

- **Full** - the capability specified by the associated requirement has been implemented.
- **Partial** - the capability has been partially implemented
- **No** - the capability has not yet been implemented

With respect to the following table:

1. The Errors column identifies the number of reported errors captured when validating the files comprising the test case.
2. The Liens column indicates whether or not there were liens placed against VTool (i.e., Based on the analysis of the errors reported in the test report, did any of the errors uncover VTool functionality that is yet to be provided or is not currently operational).
3. The Comments column provides a high level summary of the errors noted in validating the test case.

Note: The baseline reports were supplied as part of the VTool software installation package and are located in the BASELINE directory.

Test Case	Support	Errors	Liens	COMMENTS
VTT_EN_1-1	Partial	4	Yes	<ul style="list-style-type: none"> <li>Parsing of integer values that begin with a '+' sign not yet implemented</li> <li>Parsing of units that contain special characters (i.e. spaces, decimal point, '/' slash) not yet implemented</li> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> </ul>
VTT_EN_1-2	Partial	1	Yes	
VTT_EN_1-3	Partial	145	Yes	
VTT_EN_1-4	Partial	13	Yes	<ul style="list-style-type: none"> <li>Validating against a keyword whose STANDARD_VALUE_TYPE is SUGGESTED not yet implemented</li> <li>Expected to get errors; contains non-compliant labels</li> <li>File characteristic recognition is not yet implemented (L5.VAL.FR.36)</li> <li>Checking of assignment statements where the assignment symbol (=) needs to be surrounded by blanks as stated in 12.7.3 of the PDS Standards Reference is not yet implemented</li> <li>Some OBJECT (SPICE_KERNEL) and END_OBJECT (KERNEL) definitions that do not match are not reported as errors</li> <li>Checking of a missing END_OBJECT value not implemented yet</li> <li>Missing comma separating a value in a sequence or set does not throw an error (i.e. 0.25 &lt;DEG&gt;, 3.00 &lt;DEG&gt; 0.30 &lt;DEG&gt;)</li> <li>SFDU validation not yet implemented (L5.VAL.FR.26)</li> <li>Existence of duplicate keywords not yet checked</li> <li>Checking of an END statement not yet implemented</li> <li>Expected to get errors; contains non-compliant labels</li> <li>Verifying that a file exists when referenced by a pointer is not yet implemented (L5.VAL.FR.19)</li> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> </ul>
VTT_EN_1-5	Partial	12	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> </ul>
VTT_EN_2_1-1	Partial	4	Yes	Parser not able to yet deal with OBJECT definitions whose required/optional elements are locally-defined elements (i.e. MRO:NEW_REQUIRED_ELEMENT_1)
VTT_EN_2_1-2	Partial	2	Yes	
VTT_EN_2_1-3	Partial	4	Yes	
VTT_EN_2_1-4	Partial	4	Yes	
VTT_EN_2_1-5	Partial	2	Yes	
VTT_EN_2_2-1	Partial	0	No	Parser not able to yet deal with OBJECT definitions whose required/optional elements are locally-defined elements (i.e. MRO:NEW_REQUIRED_ELEMENT_1)
VTT_EN_2_2-2	Partial	0	No	
VTT_EN_2_2-3	Partial	3	No	
VTT_EN_2_2-4	Partial	11	Yes	
VTT_EN_2_2-5	Partial	0	No	
				Expected to get errors; contains non-compliant labels
				<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> </ul>

Test Case	Support	Errors	Liens	COMMENTS
VTT_EN_2_3-1	Partial	10	Yes	Aliasing not yet implemented
VTT_EN_2_3-2	Partial	26	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>Validating against a keyword whose STANDARD_VALUE_TYPE is SUGGESTED not yet implemented</li> </ul>
VTT_EN_2_3-3	Partial	134	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> <li>Aliasing not yet implemented</li> <li>Whitespace stripping not yet implemented</li> <li>Incorrect PSDD object definition of FILE produces erroneous messages</li> <li>Whitespace stripping not yet implemented</li> <li>Validating against a keyword whose STANDARD_VALUE_TYPE is SUGGESTED not yet implemented</li> </ul>
VTT_EN_2_3-4	Partial	4	Yes	<ul style="list-style-type: none"> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>Expected to get errors; contains non-compliant labels</li> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> </ul>
VTT_EN_2_4-1	Partial	3	Yes	Expected to get errors; contains non-compliant labels
VTT_EN_2_4-2	Partial	5	Yes	Following pointers where the file is not co-located with the label is not implemented yet
VTT_EN_2_4-3	Partial	0	No	
VTT_EN_3-1	No	6	Yes	<ul style="list-style-type: none"> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> </ul>
VTT_EN_3-2	No	6	Yes	<ul style="list-style-type: none"> <li>Verifying that a file exists when referenced by a pointer is not yet implemented (L5.VAL.FR.19)</li> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>Whitespace stripping not yet implemented</li> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> </ul>
VTT_EN_19-1	No	13	Yes	<ul style="list-style-type: none"> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> </ul>
VTT_EN_21-1	Full	0	No	
VTT_EN_22-1	Full	33	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant label</li> <li>When label fragments are combined, semantic errors are reported, but it is difficult to tell which file the message pertains to (label fragment or the label itself?)</li> <li>Aliasing not yet implemented</li> <li>Whitespace stripping not yet implemented</li> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> </ul>
VTT_EN_22-2	Full	0	No	
VTT_EN_22-3	Full	4	Yes	<ul style="list-style-type: none"> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>Validating against a keyword whose STANDARD_VALUE_TYPE is SUGGESTED not yet implemented</li> </ul>
VTT_EN_23-1	Partial	0	No	
VTT_EN_23-2	Partial	0	No	
VTT_EN_23-3	Partial	2	Yes	Following pointers where the file is not co-located with the label is not implemented yet
VTT_EN_24-1	Full	0	No	
VTT_EN_24-2	Full	0	No	

Test Case	Support	Errors	Liens	COMMENTS
VTT_EN_24-3	Full	0	No	
VTT_EN_25-1	Full	0	No	
VTT_EN_25-2	Full	0	No	
VTT_EN_26-1	No	0	Yes	SFDU validation not yet implemented (L5.VAL.FR.26)
VTT_EN_26-2	No	0	Yes	SFDU validation not yet implemented (L5.VAL.FR.26)
VTT_EN_26-3	No	1	Yes	SFDU validation not yet implemented (L5.VAL.FR.26)
VTT_EN_26-4	No	0	Yes	SFDU validation not yet implemented (L5.VAL.FR.26)
VTT_EN_26-5	No	0	Yes	SFDU validation not yet implemented (L5.VAL.FR.26)
VTT_EN_27-1	No	2	Yes	Following pointers where the file is not co-located with the label is not implemented yet
VTT_EN_27-2	No	5	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant label fragment</li> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> </ul>
VTT_EN_27-3	No	11	Yes	<ul style="list-style-type: none"> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> <li>Label fragment validation not yet fully implemented (L5.VAL.FR.27)</li> </ul>
VTT_EN_27-4	No	6	Yes	<ul style="list-style-type: none"> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> <li>Label fragment validation not yet fully implemented (L5.VAL.FR.27)</li> </ul>
VTT_EN_27-5	No	6	Yes	<ul style="list-style-type: none"> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> <li>Label fragment validation not yet fully implemented (L5.VAL.FR.27)</li> </ul>
VTT_EN_28-1	No	3	Yes	<ul style="list-style-type: none"> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> </ul>
VTT_EN_29-1	Full	11	Yes	<ul style="list-style-type: none"> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>Incorrect PSDD element definitions of 'FIELDS' and 'FIELD_NUMBER' produces erroneous messages</li> </ul>
VTT_EN_30-1	Full	6	Yes	<ul style="list-style-type: none"> <li>Following pointers where the file is not co-located with the label is not implemented yet</li> <li>GROUP validation not implemented yet as described in Chapter 12 of the PDS Standards (L5.VAL.FR.1)</li> <li>Parsing of integer values that begin with a '+' sign not yet implemented</li> </ul>
VTT_EN_32-1	Partial	0	No	
VTT_EN_32-2	Partial	0	No	
VTT_EN_32-3	Partial	0	No	
VTT_EN_33-1	Partial	0	No	
VTT_EN_33-2	Partial	0	No	
VTT_EN_34-1	Full	19	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>Parser does not complain about double-quoted date/time value</li> </ul>
VTT_EN_35-1	Full	0	No	
VTT_EN_35-2	Full	1	Yes	<ul style="list-style-type: none"> <li>Expected to get errors; contains non-compliant labels</li> <li>Label fragment validation not yet fully implemented (L5.VAL.FR.27)</li> <li>Tool does not yet identify files having an extension of FMT as a label fragment (L5.VAL.FR.28)</li> </ul>
VTT_EN_36-1	No	0	Yes	File characteristic recognition is not yet implemented (L5.VAL.FR.36)
VTT_EN_36-2	No	0	Yes	File characteristic recognition is not yet implemented (L5.VAL.FR.36)



Test Case	Support	Errors	Liens	COMMENTS
VTT_EN_38-1	Full	0	No	
VTT_EN_99-1	No	1	Yes	<ul style="list-style-type: none"> <li>• Parser not yet able to handle all exceptions</li> <li>• Labels in this test directory make the tool quit un-expectedly</li> </ul>